4. A reactive hot melt adhesive comprising an isocyanate, a polyol and a fire retardant selected from the group consisting of ethylenebistetrabromophthalimide, tris(2,3-dibromopropyl)isocyanurate and mixtures thereof.

REMARKS

Combined 35 U.S.C. 102(b)/103(a) Rejections

Claims 1 and 2 were rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 4,632,951 issued to Fuhr, or in the alternative as unpatentable under 35 U.S.C. 103(a) in view of Fuhr. Claim 2 has been cancelled. Claim 1 has been amended to cover reactive hot melt adhesives in place of all polyurethane compositions. Fuhr discloses the use of flame retardants in plastics, however it does not disclose, teach or suggest the use of flame retardants in reactive hot melt adhesives. As anticipation under 35 U.S.C. 102 requires identity of invention, it is respectfully submitted that claim1 is not anticipated by Fuhr. Further, there is no disclosure within Fuhr that would lead one skilled in the reactive hot melt adhesive art to add the claimed fire retardants into a reactive hot melt adhesive. Thus, it is respectfully submitted that claim 1, as amended, is allowable under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) over Fuhr.

35 U.S.C. 103 Rejections

Claims 1 – 13 were rejected as unpatentable under 35 U.S.C. 103(a) U.S. Patent No. 5,342,873, issued to Merz, in view of U.S. Patent No. 3,959,219, issued to Aoyama, Fuhr, U.S. Patent Nos. 4,654,105, 4,616,044 and 4,652,485, issued to Fesman, all in view of U.S. Patent No. 5,331,040, issued to Lee. Claims 2 and 3 have been cancelled. Claims 1 and 4 have been amended to

specifically cover reactive hot melt adhesives. Merz discloses reactive hot melt adhesives and lists flame retardants as one category of many potential ingredients. There is no disclosure in Merz of any particular flame retardant material that may be suitable for use with reactive hot melt adhesives. Aoyama, Fuhr, Fesman and Lee disclose the use of flame retardant ingredients, however none of those references disclose the use of those ingredients in a reactive hot melt adhesive. Consequently, there is no teaching or suggestion that would lead one skilled in the art to combine the flame retardant materials of Aoyama, Fuhr, Fesman or Lee with a reactive hot melt adhesive.

- Reactive hot melt adhesives have several specifically targeted properties, including good green strength, controlled setting speed, adhesion properties, machineability and good thermal stability at elevated temperatures. Thus, it is critical that any ingredient in a reactive hot melt adhesive does not negatively impact these properties. There is no teaching or suggestion in any of the references that the flame retardant materials of the present invention would be a) be suitable for inclusion within a reactive hot melt adhesive or b) would not negatively affect the properties of a reactive hot melt adhesive. Thus, it is respectfully submitted that claims 1 and 4 – 13 are patentable under 35 U.S.C. 103(a) over any combination of Merz, Aoyama, Fuhr, Fesman and Lee.

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance. If there are any issues that the Examiner wishes to discuss, he is invited to contact the undersigned attorney at the telephone number set forth below.

Respectfully submitted

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APPENDIX 1
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please cancel claims 2 and 3 and amend claims 1 and 4 as follows:

1. A method of imparting flame retardant properties to a reactive hot melt adhesive [polyurethane composition] comprising adding an effective amount of ethylenebistetrabromophthalimide and/or tris(2,3-dibromopropyl)isocyanurate as a fire retardant during manufacture of the reactive hot melt adhesive [polyurethane composition].

[2. The method of claim 1 wherein the polyurethane composition is a polyurethane foam, polyurethane rubber, polyurethane coating, polyurethane sealant or polyurethane adhesive.]

[3. The method of claim 2 wherein the polyurethane adhesive is a reactive hot melt adhesive.]

4. A reactive hot melt adhesive [polyurethane composition] comprising an isocyanate, a polyol and a fire retardant selected from the group consisting of ethylenebistetrabromophthalimide, tris(2,3-dibromopropyl)isocyanurate and mixtures thereof.